The Department of Chemistry and Biochemistry

Seminar Series

Presents a Seminar Titled:

"Synthesis of Chiral Small Molecules for Drug Discovery and Advanced Materials"

Presented By

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My main research interests are the development of asymmetric synthetic methods for chiral small molecules and natural products analogs, and the synthesis and property study of advanced biomaterials from carbohydrate based self-assembling systems. As renewable resources, carbohydrates are not only important in energy and materials sciences, but also in chemistry and biology. Sugars contain multiple chiral centers and can be selectively functionalized to produce interesting new materials or biologically active compounds. We have been working on the synthesis and self-assembling of various monosaccharide derivatives, and discovered several novel classes of sugar based low molecular weight gelators (LMWGs). These compounds form unique classes of soft materials that are useful in biomedical research and as advanced functional materials. We have systematically studied their gelation properties and obtained knowledge on the functionalization of monosaccharaides that will result in gelation in different solvents. In this talk, the first part I will give an overview of our ongoing research and then discuss our recent progress on the study of several new glucosamine derivatives. These include the various modifications at the anomeric position and the protective groups at 4,6-hydroxyl groups.

Friday, February 22, 2013 at 3:00 in OCNPS 100